

In the Claims:

1. (Currently amended) ~~An~~ A gas seal system assembly, comprises comprising:
a housing (140);
an electric motor (130) accommodated within a first portion (142) of the housing;
rotating machinery (132) accommodated within a second portion (144) of the housing and driven by ~~the~~ said electric motor;
separation means (146) in the housing between ~~the~~ said first and second portions thereof for separating fluid acted upon by ~~the~~ said rotating machinery (132) from ~~the~~ said electric motor (130);
and gas introduction means (170) for introducing at least substantially dry motor protection gas into ~~the~~ said first housing portion (142); ~~characterised by:~~
wherein said gas introduction means further comprises a restricted gas flow means (154) for permitting a leakage of the motor protection gas from the said first housing portion (142) into the said second housing portion (144); and
a circulating apparatus (170) for diverting a portion of the fluid acted upon by the said rotating machinery (132) to the said first housing portion (142), the said circulating apparatus including drying means (174) for reducing the moisture content of the acted upon gas diverted back to the said first housing portion (142), said drying means having at least one outlet.
2. (Currently amended) The assembly as claimed in claim 1, wherein ~~the~~ said gas introduction means (148) includes external means for supplying the at least substantially dry gas (152).
3. (Currently amended) The assembly as claimed in claim 2, wherein ~~the~~ said means for supplying the at least substantially dry gas comprises a gas drying and supply unit on a remote host facility linked to ~~the~~ said first housing portion by an umbilical (148).
4. (Currently amended) The assembly as claimed in claim 1, 2, ~~or 3~~, wherein ~~the~~ said drying means (174) separates the diverted portion of the acted upon gas into an at least substantially moisture-free first outlet flow (176) and ~~the~~ said circulating apparatus

includes first routing means (182) for routing the first outlet flow from a ~~first outlet (178)~~ a first one of said at least one outlet of the said drying means (174) to the said housing first housing portion (142).

5. (Currently amended) The assembly as claimed in ~~any preceding claim 4~~, wherein ~~the said~~ drying means (174) incorporates moisture extracted from the acted upon gas into a second outlet flow (186) from ~~the said~~ drying means (174).

6. (Currently amended) The assembly as claimed in claim 5, wherein the second outlet flow (186) from ~~the said~~ drying means (174) is transported away from the assembly by means of the gas being acted upon by ~~the said~~ rotating machinery (132).

7. (Currently amended) The assembly as claimed in claim 5 ~~or 6~~, including second routing means (190, 193) for routing the second outlet flow (186) containing the extracted moisture from a second outlet (188) of ~~the said~~ drying means (174) and for incorporating it into the flow of gas acted upon by ~~the said~~ rotating machinery (132).

8. (Currently amended) The assembly as claimed in claim 7, wherein ~~the said~~ second routing means (190) incorporates the second outlet flow (186) containing the extracted moisture into the acted upon gas at least substantially prior to ~~it~~ the gas being acted upon by ~~the said~~ rotating machinery (132).

9. (Currently amended) The assembly as claimed in claim 7, wherein ~~the said~~ second routing means (193) incorporates the second outlet flow (186) containing the extracted moisture into the acted upon gas at least substantially after ~~it~~ the gas has been acted upon by ~~the said~~ rotating machinery (132).

10. (Currently amended) The assembly as claimed in claim 9, wherein ~~the said~~ second routing means includes a pressure ~~equalising~~ equalizing device (196) for incorporating the second outlet flow (186) containing the extracted moisture into the acted upon gas downstream of ~~the said~~ rotating machinery (132).

11. (Currently amended) The assembly as claimed in ~~any preceding~~ claim 1, wherein ~~one or more gas outlet flows (176, 186) from the drying means (174) at least one outlet flow passes through one or more non-return valves (180, 192, 194) at least one non-return valve configured to prevent such flow or flows returning directly to said one or more at least one outlet outlets (178, 188) of the said drying means (174).~~

12. (Currently amended) The assembly as claimed in ~~any preceding~~ claim 1, wherein ~~the said rotating machinery comprises a compressor (132) or a centrifugal pump is selected from the group consisting of compressors and centrifugal pumps.~~

13. (Currently amended) The assembly as claimed in claim 12 1, wherein ~~the said second housing portion (144) includes a compressor inlet (158) for receiving gas at a first pressure and a compressor outlet (162) for delivering gas at a second pressure higher than the first pressure and the said restricted gas flow means (154) enables leakage of the motor protection gas into the said second housing portion (144).~~

14. (Currently amended) The assembly as claimed in claim 13, wherein ~~the said gas flow means (154) is adjacent the said compressor inlet (158).~~

15. (Currently amended) The assembly as claimed in ~~any preceding~~ claim 1, including means for automatically maintaining the motor protection gas at a pressure above that of fluid in a part of ~~the said second housing portion adjacent the said restricted gas flow means (154).~~

16. (Currently amended) A gas seal system method, comprising: of operating an electric motor (130) accommodated in a first portion (142) of a housing (140) and arranged to drive a rotating machine (132) accommodated in a second portion (144) of the housing in which fluid in the second housing portion (144) which is acted upon by the rotating machine (132) is separated from the first housing portion (142) by separation means (146), the method including providing gas introduction means (170) for introducing at least substantially dry motor protection gas into the first housing portion (142), and providing restricted gas flow means (154) between the first and

second housing portions (142, 144), ~~characterized by~~ wherein the method further comprises the steps of:

establishing a leakage of the motor protection gas from the first housing portion (142) to the second housing portion (144) via the gas flow means (154);

providing circulating apparatus (170) and diverting a portion of the acted upon gas to the first housing portion (142) via the circulating apparatus; and

incorporating drying means (174) in the circulating apparatus (170) and reducing the moisture content of the acted upon gas diverted back to the first housing portion (142) by means of the drying means (174).